

## **ABSTRACT OF THE DISCLOSURE**

The present invention relates generally to the use of vitamin B12 (cobalamin or cyanocobalamin) alone or in combination with other photoprotective agents, including specifically other vitamins such as vitamin B9 (folic acid or folate) and vitamin B3 (niacin or niacinamide), or any chemical derivative of these vitamins and their salts, as a filter to protect cells against the damaging effects of ultraviolet (UV) light. The invention is, in one aspect, a method of reducing the rate of UV damage to cells exposed to a UV light source, by treating the cells with the vitamin composition, either alone or in combination with other photoprotective agents. Other aspects of the invention are compositions comprising effective amounts of vitamin B12 alone or in combination with other photoprotective agents including vitamin B9 and vitamin B3 and a pharmaceutically-acceptable carrier, that are useful in protecting cells, particularly skin cells, against the burning, genotoxic (mutagenic and carcinogenic), immunosuppressive and photoaging effects of UV light, especially sunlight. The invention has application as a UV light filter in oral preparations including tablets and drinks, topical creams, lotions, sprays, wipes and cosmetics. The invention also has application as a medicinal treatment for dermatological conditions caused by exposure to sunlight, such as actinic keratoses, photodermatitis, photo-induced (discoid) lupus erythematosus and the photosensitizing effects of a variety of drugs used commonly in clinical practice (e.g. certain antihistamines, ACE inhibitors, and antibiotics such as tetracycline).